



U.S. Department
of Transportation

Research and
Special Programs
Administration

MAR 22 2000

400 Seventh Street, S.W.
Washington, D.C. 20590

DOT-E 7227
(SEVENTH REVISION)

EXPIRATION DATE: February 28, 2002

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Chart Storage Systems Division
New Prague, MN
(Former grantee: MVE, Inc.)

2. PURPOSE AND LIMITATIONS:

This exemption authorizes the manufacture, marking and sale of non-DOT specification portable tanks with pressure controlling valves set at 25 psig or less, to be used for the transportation in commerce of non-pressurized 2.2 liquids. This exemption provides no relief from any regulation other than as specifically stated herein.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.318 in that portable tanks are not an authorized package, § 175.3, § 176.30, § 176.76(g)(1), § 178.338, except as required herein.
5. BASIS: This exemption is based on the application of Chart Storage Systems Division dated March 7, 2000, submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous materials description -- proper shipping name	Hazard Class/ Division	Identi- fication Number	Packing Group
Nitrogen, refrigerated liquid (cryogenic liquid)	2.2	UN1977	N/A
Oxygen, refrigerated liquid (cryogenic liquid)	2.2	UN1073	N/A

MAR 22 2000

Continuation of DOT-E 7227 (7th Rev.)

Page 2

7. PACKAGING(S) and SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a vacuum insulated non-DOT specification portable tank designed and constructed in accordance with Section VIII of the ASME Code and paragraphs 7.b. or 7.c. below. The portable tank is skid mounted or enclosed in an ISO type frame. Design temperature is -320°F for the inner tank and any part, valve or fitting that may come in contact with the lading. Inner tank material is SA 240 Type 304 stainless steel. Jacket material is SA 36 carbon steel or equivalent.

b. Each portable tank must conform to one of RLEC's specifications specified in Appendix A provided as part of this exemption, on file with the Office of Hazardous Materials Transportation Exemptions and Approvals (OHMEA). No new construction is authorized unless the tank design and construction conforms with paragraph 7.c. below. The portable tank identified with serial number 8432 is authorized for oxygen service without a manhole, provided that its jacket is marked to indicate location of inspection opening on the tank.

c. Tanks constructed after December 31, 1986, must conform with § 178.338, except as follows: Corresponding drawings and calculations must be submitted to the OHMEA prior to first shipment.

(1) Impact test is not required.

(2) § 178.338-10 does not apply.

(3) Lifting lugs, framework and any anchoring to the inner tank or tank jacket must conform with § 178.338-13(a). A portable tank that meets the definition of "container" in § 450(a)(3) must meet the requirements of 49 CFR Parts 450 through 453 and each tank design must be qualified in accordance with § 178.270-13(c).

d. TESTING - Each portable tank must be reinspected and retested once every five years in accordance with § 173.32(e) as prescribed for DOT Specification 51 portable tanks at a test pressure of one and one-fourth times the sum of the design pressure plus the static head, plus 14.7 psig.

MAR 22 2000

e. OPERATIONAL CONTROLS -

1. Each portable tank must be prepared and shipped as required in § 173.318, for MC 338 cargo tanks, as applicable for the lading. The portable tank may be equipped with road relief valves set to discharge at 25 psig or less and arranged to discharge as the pressure relief valves.

2. No person may transport a charged portable tank unless the pressure of the lading is equal to or less than that used to determine the marked rated holding time and the OWTT is equal to or greater than the elapsed time between the start and termination of travel.

f. MARKING -

1. "DOT-E 7227" must replace the mark "MC 338".

2. Each portable tank must be plainly marked on both sides near the middle in letters at least two inches high on a contrasting background, "DOT-E 7227". In addition, each tank must be marked in accordance with § 172.326(a), except the maximum letter size must be four inches.

3. The legend "One Way Travel Time (OWTT) _____ Hours" must be marked on the shipping paper immediately after the container description. The OWTT is determined by the formula:

$$\text{OWTT} = \text{MRHT} - 24$$

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this exemption for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this exemption.

b. A person who is not a holder of this exemption, but receives a package covered by this exemption, may reoffer it for transportation provided no modifications or changes are made to the package and it is offered for transportation in conformance with this exemption and the HMR.

MAR 22 2000

c. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.

d. Each packaging manufactured under the authority of this exemption must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Exemptions and Approvals for a specific manufacturing facility.

e. A current copy of this exemption must be maintained at each facility where the package is manufactured under this exemption. It must be made available to a DOT representative upon request.

9. MODES OF TRANSPORTATION AUTHORIZED: Cargo vessel and cargo aircraft only (See paragraph 10 for limitations).

10. MODAL REQUIREMENTS:

a. Shipments by cargo vessel must conform with the following:

(1) The provisions of § 176.76(h) applies. The portable tanks must not be overstowed with other containers or freight. In addition, for each shipment, a written record of the portable tank pressure and ambient (outside) temperature at the following times must be prepared.

(i) At the start of each trip;

(ii) Immediately before and after any manual venting;

(iii) At least once every 24 hours; and

(iv) At the destination point.

(2) A portable tank transported aboard a cargo vessel may not be partially unloaded during any segment of transportation. A secondary stop valve must be provided outboard of each excess flow valve on tanks transported aboard a cargo vessel.

MAR 22 2000

Continuation of DOT-E 7227 (7th Rev.)

Page 5

(3) Each portable tank used to transport a cryogenic liquid aboard cargo vessels must be examined after each shipment to determine its actual holding time. If the examination indicates that the actual holding time is less than 90% of the marked rated holding time of the tank, the tank may not be refilled until it is restored to its marked rated holding time or tank is remarked with the reduced actual rated holding time determined by this examination.

(4) A current copy of this exemption must be carried aboard each cargo vessel and aircraft used to transport packages covered by this exemption. The shipper must furnish a copy of this exemption to the air carrier before or at the time the shipment is tendered.

b. Cargo-only aircraft shipments are subject to the following:

(1) The appropriate FAA-CASO must be notified prior to each shipment.

(2) The portable tank must be adequately blocked and braced to prevent movement during transportation. Maximum water capacity of portable tank is 2200 gallons nominal.

(3) Shipper must identify the serial numbers and other identifiers of each tank, and the origination and destination points of shipments to the OHMEA prior to first shipment.

(4) Filling and transport conditions must consider any possible pressure rise during air transportation above the pressure controlling valve set-to-discharge pressure.

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, Parts 171-180.
- o Registration required by § 107.601 et seq., when applicable.

MAR 22 2000

Continuation of DOT-E 7227 (7th Rev.)

Page 6

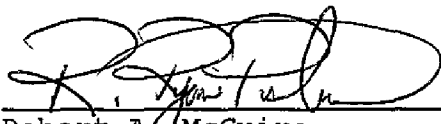
Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by § 172.700 through § 172.704.

No person may use or apply this exemption, including display of its number, when the exemption has expired or is otherwise no longer in effect.

12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

The release of a material covered by this exemption is not a reportable incident if the release is through a pressure controlling device set at a pressure no higher than 15 psig.

Issued at Washington, D.C.



for Robert A. McGuire
Acting Associate Administrator
for Hazardous Materials Safety

MAR 22 2000

(DATE)

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590.
Attention: DHM-31.

The original of this exemption is on file at the above office. Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

Copies of exemptions may be obtained from the AAHMS, U.S. Department of Transportation, 400 7th Street, SW, Washington, DC 20590-0001, Attention: Records Center, 202-366-5046.

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MAR 22 2000

Continuation of DOT-E 7227 (7th Rev.)

Page 7

APPENDIX A

SPECIFICATION AND DRAWINGS FOR PORTABLE TANKS (DOT-E 7227)

Tank Model

PT-10-LN-SP PT-19-LN-SP PT-20-LN-SP PT-22-LN-SP SK-31-LO-SP

Design Pressure

(MAWP)

43 psig 43 psig 43 psig 43 psig 244 psig

Water Capacity (gallons)

1060 1920 2045 2200 3126

General Arrangement

Drawing

E24-193 Rev 6, or E74-152 Rev 3, D75-349 Rev 3, E-86-193 Rev 0,
E74-194, Rev 6, E75-003, Rev 0 or D740194 Rev 8, E76-495 Rev
5E74-194 Rev 3 or E81-736 Rev 0

Inner Vessel

Drawing

D71-106 Rev 8, D77-80 Rev 0, or D74-240 Rev 0 or 074-240 Rev
2086-061 Rev 0 or 9 E74-196 Rev 3, 2, D72-415, Rev 1
or B74-235 Rev 3

Outer Vessel Drawing

D74-234 Rev 1, B74-191 Rev 3 or B74-235, Rev 0 D74-235, Rev 3,
C86-062, Rev 0 or 2 D74-191 Rev 3

External Piping

E74-533 Rev 0 or E76-49 Rev, D74-536- Rev 3, D86-192 Rev 0

Assembly Drawing

D72-482 Rev 4 or E76-320 Rev 8